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[redacted]

S-20, 583

Copy 2 of 4

June 28, 1963

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Mr. [redacted]

Ref: Contract AF33(600)-40280, Proposed Extension No. 3, dated May 27, 1963

Dear Roy:

25X1 I have reviewed your proposal for the third extension of the [redacted] Project and as outlined in conversations with you have the following comments to make.

(1) The general framework or reference in which you made this proposal is [redacted] somewhat different from the one which now exists. [redacted]. In order to meet the final goals with the least cost in time and dollars, I believe that we should direct our maximum effort to getting an experimental system in the final airplane and in the air at the earliest date. This procedure will allow us to prove the system, and investigate the interface engineering details between the radar, the motion compensation system, and the environment. Upon completion of this phase we should have pictures of reasonable quality taken from nominal altitude, and we should know which parameters are limiting our performance. This would lead us to the next steps to improve on the limiting features while refining or copying other components to meet military or operational specifications. It is anticipated that development engineering will actually go on in the final airplane installation during the period of flight test while the interface problems are being solved. I believe that by getting pictures, that are not in the strict sense operational, but that are made by using all the final components in a single system, we will discover the major problems earlier and we will get a solution sooner.

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(2) The second comment has to do with the overall performance of the system. I believe that the performance predicted in the status review last January by [redacted] is both possible and acceptable. I would like you to use this performance as your criterion and to use your judgment to determine when each of the components of the radar system are developed to a stage where it is reasonable to assemble them in the final airplane. Under this philosophy I should not expect to get adequate maps during the first flights, but I would expect to get useful information as to the performance of the various components and their interaction on each other. 25X1

I believe more measurements must be made on the system and on the individual components, and these measurements must be made to a tolerance consistent with expected performance. With this in mind, the flight test must be designed to obtain the maximum information on component and system performance rather than relying primarily on the output film from the recorder. However, this evaluation program does not excuse us in any way from getting an acceptable map at the earliest possible date.

(3) My third comment has to do with the number of equipments that you have contracted to deliver. There now exist a requirement for three equipments, a spare recorder and other spares. Some or all of these three equipments exist in one state of development or another. In the next few months it is my desire to make one of these three systems the developmental model. Every effort should be made to insure that it will work in the final airplane, that it is self-compatible, and that it has maximum reliability. I recognize that spares for the various components are very useful if not essential. However, I do not see any worthwhile end in creating three identical developmental systems. When number one gets on the air and proves itself, it will be time enough to retrofit the other systems if that is what seems best to us at that time. Therefore, your proposal should be directed toward getting number one on the air in the final airplane at the earliest time. All other work not directly related to this is secondary.

(4) My fourth comment is about costs. I think your last proposal was too expensive for the work outlined. Specifically, the costs for modifying the receiver including a new preamp, a new local oscillator, a new [redacted] strip and range marks in the video amount to $228,000. Except for the range marks these new circuits have already been designed and developed on previous contracts. The fee you add on to the [redacted] Recorder appears to b 25X1 25X1

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$43,000 for which you will supply a CRT and a power supply. However, the CRT is to be purchased under the Recorder Design Evaluation, Item #7, and the power supply will either come from [redacted] or the W development under Item #4. Finally, the cost of developing a power supply is five times the cost to either of the two previous suppliers.

(5) My fifth and final comment is on a request for a new proposal. In view of the above comments I am asking you to prepare a new proposal with minimum technical ~~support~~ detail. This proposal should address itself to getting one experimental APQ-93 radar with motion compensation equipment installed in the final airplane and flight tested for at least three months.

Very truly yours,

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[redacted]